UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,389	09/18/2003	Mark W. McGarry	A-70142-001 (27523/US/1)/	4217

32940 7590 01/03/2007

DORSEY & WHITNEY LLP
555 CALIFORNIA STREET, SUITE 1000
SUITE 1000
SAN FRANCISCO, CA 94104

EXAMINER	
BEISNER, WILLIAM H	
ART UNIT	**PAPER NUMBER**
1744	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/665,389	MCGARRY ET AL.	
	Examiner	Art Unit	
	William H. Beisner	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/15/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements filed 3/14/2004 have been considered and made of record.

Specification

2. The abstract of the disclosure is objected to because it is not limited to a single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Fodor et al.(US 5,324,633).

With respect to claim 1, the reference of Fodor et al. discloses an apparatus for performing biological reactions on a substrate surface that includes a biochip including a substrate (212) and a plurality of arrays of biologically reactive sites on the substrate (See

column 12, lines 13-36). The apparatus includes a base plate (329) and a gasket (335) affixed between the biochip and the base plate (See Figure 3c and column 12, lines 13-36), the gasket defining a plurality of reaction chambers (310), each reaction chamber corresponding to one of the arrays.

With respect to claim 2, the base plate (329) defines at least one well structure (310).

With respect to claims 3 and 4, the reference discloses the use of flow channels or ports (337) in fluid communication with the chambers (310).

With respect to claim 5, the biological reactive sites can include oligonucleotide probes (See column 4, lines 42-44 and claim 21).

With respect to claim 7, the reference of Fodor et al. discloses an apparatus for performing biological reactions on a substrate layer that includes including a substrate (212) and a plurality of reactive sites on the substrate (See column 12, lines 13-36). The apparatus includes a base plate (329) having a cavity or well structure (310) and a sealing member (335) affixed between the substrate and the base plate (See Figure 3c and column 12, lines 13-36), the sealing member defining a plurality of well structures (310), each reaction chamber corresponding to one of the reactive sites. The device also includes a fluid port (337) connected to at least one reaction chamber.

With respect to claim 8, the device includes a second port (337) extending from at least one of the reaction chambers.

With respect to claim 9, the biological reactive sites can include oligonucleotide probes (See column 4, lines 42-44 and claim 21).

5. Claims 1-10 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by Schembri et al.(US 6,258,593).

With respect to claim 1, the reference of Schembri et al. discloses an apparatus for performing biological reactions on a substrate surface that includes a biochip including a substrate (2) and a plurality of arrays of biologically reactive sites on the substrate (See column 10, line 57, to column 12, line 42). The apparatus includes a base plate (3) and a gasket (8) affixed between the biochip and the base plate (See Figure 1 and column 10, line 57, to column 12, line 42), the gasket defining a plurality of reaction chambers (9), each reaction chamber corresponding to one of the arrays.

With respect to claim 2, the base plate (3) defines at least one well structure (9).

With respect to claims 3 and 4, the reference discloses the use of flow channels or ports (11, 11') in fluid communication with the chambers (9).

With respect to claim 5, the biological reactive sites can include oligonucleotide probes (See column 7, lines 14-28).

With respect to claim 6, the device can include a heating element (See Example 2).

With respect to claim 7, the reference of Schembri et al. discloses an apparatus for performing biological reactions on a substrate layer that includes including a substrate (2) and a plurality of reactive sites on the substrate (See column 10, line 57, to column 12, line 42). The apparatus includes a base plate (3) having a cavity or well structure (9) and a sealing member (8) affixed between the substrate and the base plate (See Figure 1 and column 10, line 57, to column 12, line 42), the sealing member defining a plurality of well structures (9), each reaction chamber

corresponding to one of the reactive sites. The device also includes a fluid port (11) connected to at least one reaction chamber.

With respect to claim 8, the device includes a second port (11') extending from at least one of the reaction chambers.

With respect to claim 9, the biological reactive sites can include oligonucleotide probes (See column 7, lines 14-28).

With respect to claim 10, the device can include a heating element (See Example 2).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fodor et al.(US 5,324,633) in view of Trulson et al.(US 5,578,832).

The reference of Fodor et al. has been discussed above.

Claims 6 and 10 differ by reciting that the apparatus includes a heating element positioned to heat at least one reaction chamber.

The reference of Trulson et al. discloses that when performing a reaction in a flow cell similar to that of the primary reference, it is known in the art to provide the flow cell with a temperature controller which can include a heating element (See column 9, lines 50-65).

In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the flow cell of the primary reference with a temperature controller for the known and expected result of controlling the reaction conditions within the flow cell.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined

application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-10 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17, 19-30 and 33-66 of U.S. Patent No. 6,642,046. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim not is patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because instant claims 1-10 are generic to all that is recited in claims 1-17, 19-30 and 33-66 of U.S. Patent No. 6,642,046. That is, claims 1-17, 19-30 and 33-66 of U.S. Patent No. 6,642,046 falls entirely within the scope of instant claims 1-10 or, in other words, instant claims 1-10 are anticipated by claims 1-17, 19-30 and 33-66 of U.S. Patent No. 6,642,046.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Beisner whose telephone number is 571-272-1269. The examiner can normally be reached on Tues. to Fri. and alt. Mon. from 6:15am to 3:45pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys J. Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William H. Beisner
Primary Examiner
Art Unit 1744

WHB